

## DAFTAR PUSTAKA

- Adriansyah, R., Novta Restiasih, E., & Meileza, N. (2018). Biosorpsi Ion Logam Berat Cu(II) dan Cr(VI) Menggunakan Biosorben Kulit Kopi Terxanthasi. *Jurnal Pendidikan Dan Ilmu Kimia* , 2(2), 114–121.
- Ahmadi, H., Hafiz, S. S., Sharifi, H., Rene, N. N., Habibi, S. S., & Hussain, S. (2022). Low cost biosorbent (Melon Peel) for effective removal of Cu (II), Cd (II), and Pb (II) ions from aqueous solution. *Case Studies in Chemical and Environmental Engineering*, 6(August), 100242. <https://doi.org/10.1016/j.cscee.2022.100242>
- Amri, A., Supranto, & Fahrurrozi, M. (2004). Kestimbangan Adsorpsi Optional Campuran Biner Cd ( II ) dan Cr ( III ) dengan Zeolit Alam Terimpregnasi 2-merkaptobenzotiazol. *Jurnal Natur Indonesia*, 6(2), 111–117.
- Aslan, N., & Cebeci, Y. (2007). Application of Box-Behnken design and response surface methodology for modeling of some Turkish coals. *Fuel*, 86(1–2), 90–97. <https://doi.org/10.1016/j.fuel.2006.06.010>
- Aulia, K. (2022). *Sintesis Pupuk Lepas Lambat (Slow Release Fertilizer) dengan Biochar Sebagai Matriks Untuk Tanaman Bawang Merah (Allium ascalonium)*.
- C, I. J., N, O. D., & A, A. A. (2005). Competitive adsorption of Zn (II), Cd (II) AND Pb (II) ions from aqueous and non-aqueous solution by maize cob and husk. *African Journal of Biotechnology*, 4(10), 1113–1116. <http://www.academicjournals.org/AJB>
- Carlos, J., & Lopez, J. (2017). *Process For Obtaining Honey and/or Flour of coffee From The Pulp or Husk and The Mucilage of the Coffee Bean*. 2(12).
- Garis, P., Romalasari, A., & Purwasih, R. (2019). Pemanfaatan Limbah Kulit Kopi Cascara Menjadi Teh Celup. *Industrial Research Workshop and National Seminar*, 279–285.
- Göksungur, Y., Üren, S., & Güvenç, U. (2003). Biosorption of Copper Ions by Caustic Treated Waste Baker's Yeast Biomass. *Turkish Journal of Biology*, 27(1), 23–29.
- Heeger, A., Kosińska-Cagnazzo, A., Cantergiani, E., & Andlauer, W. (2017). Bioactives of coffee cherry pulp and its utilisation for production of Cascara beverage. *Food Chemistry*, 221, 969–975. <https://doi.org/10.1016/j.foodchem.2016.11.067>
- Hidayat, B. (2015). Remediasi Tanah Tercemar Logam Berat Dengan Menggunakan Biochar. *Jurnal Pertanian Tropik*, 2(1), 51–61. <https://doi.org/10.32734/jpt.v2i1.2878>

- Hong, G. B., & Wang, Y. K. (2017). Synthesis of low-cost adsorbent from rice bran for the removal of reactive dye based on the response surface methodology. *Applied Surface Science*, 423, 800–809. <https://doi.org/10.1016/j.apsusc.2017.06.264>
- Ibrahim, M., Khan, S., Hao, X., & Li, G. (2016). Biochar effects on metal bioaccumulation and arsenic speciation in alfalfa (*Medicago sativa* L.) grown in contaminated soil. *International Journal of Environmental Science and Technology*, 13(10), 2467–2474. <https://doi.org/10.1007/s13762-016-1081-5>
- Komari, N., Mujiyanti, D. R., & Suhartono, E. (2016). *Biosorpsi Interaksi Biomassa Tumbuhan Lahan Basah dan Logam Berat*.
- Lata, S., & Samadder, S. R. (2014). Removal of Heavy Metals Using Rice Husk: A Review. *International Journal of Environmental Research and Development*, 4(2), 2249–3131. <http://www.ripublication.com/ijerd.htm>
- Latuponu, H., Shiddieq, D., Syukur, A., & Hanudin, E. (2012). Kajian Daya Sangkah Biochar Limbah Sagu Pada Pelindian Terhadap Ketersediaan NPK di Tanah Ultisol. *Buana Sains Journal*, 12(2), 91–99.
- Lu, K., Yang, X., Gielen, G., Bolan, N., Ok, Y. S., Niazi, N. K., Xu, S., Yuan, G., Chen, X., Zhang, X., Liu, D., Song, Z., Liu, X., & Wang, H. (2017). Effect of bamboo and rice straw biochars on the mobility and redistribution of heavy metals (Cd, Cu, Pb and Zn) in contaminated soil. *Journal of Environmental Management*, 186, 285–292. <https://doi.org/10.1016/j.jenvman.2016.05.068>
- Murthy, P. S., & Madhava Naidu, M. (2012). Sustainable management of coffee industry by-products and value addition - A review. *Resources, Conservation and Recycling*, 66, 45–58. <https://doi.org/10.1016/j.resconrec.2012.06.005>
- Muzaifa, M., Rohaya, S., & Sofyan, H. A. (2022). Karakteristik Mutu Fisikokimia Dan Organoleptik Teh Kulit Kopi (Cascara) Dengan Penambahan Lemon Dan Madu. *Agrointek: Jurnal Teknologi Industri Pertanian*, 16(1), 10–17. <https://doi.org/10.21107/agrointek.v16i1.11409>
- Nafisah, D., Dewanti, T., Teknologi, W. J., Pertanian, H., Universitas, F., Malang, B., Veteran, J., & Korespondensi, P. (2018). Kajian Metode Pengeringan dan Rasio Penyeduhan-Nafisah, dkk. *Jurnal Pangan Dan Agroindustri*, 6(3), 37–47.
- Nanda, S., Mohanty, P., Pant, K. K., Naik, S., Kozinski, J. A., & Dalai, A. K. (2013). Characterization of North American Lignocellulosic Biomass and Biochars in Terms of their Candidacy for Alternate Renewable Fuels. *Bioenergy Research*, 6(2), 663–677. <https://doi.org/10.1007/s12155-012-9281-4>
- Nigam, P. S., & Singh, A. (2014). Cocoa and Coffee Fermentations. *Encyclopedia*

- of *Food Microbiology: Second Edition*, August 2021, 485–492. <https://doi.org/10.1016/B978-0-12-384730-0.00074-4>
- Novita. (2012). Penyerapan Logam Timbal (Pb) dan Kadar Klorofil Elodea Canadensis pada Limbah Cair Pabrik Pulp dan Kertas. *LenteraBio*, 1(1), 1–8. <https://ejournal.unesa.ac.id/index.php/lenterabio/article/view/188>
- Nurahma, F. M. (2019). *Pengaruh Suhu Pada Pembuatan Biochar Sebagai Komponen Teknologi Untuk Menurunkan Kadar Logam Berat Cadmium (Cd) Pada Tanah Tercemar Lumpur Lapindo di Sidoarjo Jawa Timur*.
- Park, J. H., Choppala, G. K., Bolan, N. S., Chung, J. W., & Chuasavathi, T. (2011). Biochar reduces the bioavailability and phytotoxicity of heavy metals. *Plant and Soil*, 348(1–2), 439–451. <https://doi.org/10.1007/s11104-011-0948-y>
- Prasetyo, D. (2021). *Pemanfaatan Biochar Pelepah Kelapa Sawit dan Bentonit Sebagai Adsorben Untuk Menurunkan Konsentrasi Logam Mangan Pada Air Gambut*.
- Puari, A., Rusnam, R., & Yanti, N. R. (2022). Optimization of the Carbonization Parameter of Exhausted Coffee Husk (ECH) as Biochar for Pb and Cu Removal Based on Energy Consumption. *Jurnal Teknik Pertanian Lampung (Journal of Agricultural Engineering)*, 11(2), 242. <https://doi.org/10.23960/jtep-l.v11i2.242-252>
- Qiu, P., Cui, M., Kang, K., Park, B., Son, Y., Khim, E., Jang, M., & Khim, J. (2014). Application of Box-Behnken design with response surface methodology for modeling and optimizing ultrasonic oxidation of arsenite with H<sub>2</sub>O<sub>2</sub>. *Central European Journal of Chemistry*, 12(2), 164–172. <https://doi.org/10.2478/s11532-013-0360-y>
- Rafly, N. M., Riniarti, M., Hidayat, W., Prasetya, H., Wijaya, B. A., Niswati, A., Hasanudin, U., & Banuwa, I. S. (2022). Pengaruh Pemberian Biochar Tandan Kosong Kelapa Sawit terhadap Pertumbuhan Sengon (*Falcataria moluccana*). *Journal of Tropical Upland Resources*, 4(1), 1–10. <https://doi.org/10.23960/jtur.vol4no1.2022.124>
- Raharjo, P., Raharjo, M., & Setiani, O. (2018). Analisis Risiko Kesehatan dan Kadar Timbal Dalam Darah: (Studi Pada Masyarakat yang Mengonsumsi Tiram Bakau (*Crassostrea gigas*) di Sungai Tapak Kecamatan Tugu Kota Semarang). *Jurnal Kesehatan Lingkungan Indonesia*, 17(1), 9. <https://doi.org/10.14710/jkli.17.1.9-15>
- Ridhuan, K., Irawan, D., & Inthifawzi, R. (2019). Proses Pembakaran Pirolisis dengan Jenis Biomassa dan Karakteristik Asap Cair yang Dihasilkan. *Turbo : Jurnal Program Studi Teknik Mesin*, 8(1), 69–78. <https://doi.org/10.24127/trb.v8i1.924>

- Rusnam, Puari, A. T., Yanti, N. R., & Efrizal. (2022). Utilisation of Exhausted Coffee Husk as Low-Cost Bio-Sorbent for Adsorption of Pb<sup>2+</sup>. *Tropical Life Sciences Research*, 33(3), 229-252.
- Safrianti, I., Nelly, W., & Zaharah, T. A. (2012). *Adsorpsi Timbal (II) Oleh Selulosa Limbah Jerami Padi Teraktivasi Asam Nitrat : Pengaruh pH dan Waktu Kontak*. 1(1).
- Said, N. I. (2018). METODA PENGHILANGAN LOGAM BERAT (As, Cd, Cr, Ag, Cu, Pb, Ni dan Zn) DI DALAM AIR LIMBAH INDUSTRI. *Jurnal Air Indonesia*, 6(2), 136–148. <https://doi.org/10.29122/jai.v6i2.2464>
- Saputra, I. G. D., Sumiyati, & Sucipta, I. N. (2020). *Quality of Water in Subak Irrigation in Bali*. 8, 1–10.
- Sasmita, A., Elystia, S., & Elystia, S. (2021). Penyisihan Logam Berat Pb Pada Tanah Dengan Penambahan Biochar Sekam Padi. *Jurnal Riset Teknologi Industri*, 15(2), 268. <https://doi.org/10.26578/jrti.v15i2.6942>
- Shengli, S., Junping, L., Qi, L., Fangru, N., Jia, F., & Shulian, X. (2018). Optimized preparation of Phragmites australis activated carbon using the Box-Behnken method and desirability function to remove hydroquinone. *Ecotoxicology and Environmental Safety*, 165(June), 411–422. <https://doi.org/10.1016/j.ecoenv.2018.09.038>
- Sulaiman, N. S., Hashim, R., Mohamad Amini, M. H., Danish, M., & Sulaiman, O. (2018). Optimization of activated carbon preparation from cassava stem using response surface methodology on surface area and yield. *Journal of Cleaner Production*, 198, 1422–1430. <https://doi.org/10.1016/j.jclepro.2018.07.061>
- Susilawati, N., Walanda, D. K., & Napitupulu, M. (2015). Biocharcoal dari Serbuk Gergaji Kayu Cempaka (*Elmerrillia Ovalis* Miq) Serta Daya Adsorpsinya pada Zink dan Tembaga. *Jurnal Akademika Kimia*, 4(2), 71–77. <http://jurnal.untad.ac.id/jurnal/index.php/JAK/article/view/7859>
- Wage, K. (2017). Paparan Limbah Cair Industri Mengandung Logam Berat pada Lahan Sawah di Desa Jelegong, Kecamatan Rancaekek, Kabupaten Bandung. *Jurnal Teknologi Lingkungan*, 18(2), 173–181.
- Yavari, S., Malakahmad, A., Sapari, N. B., & Yavari, S. (2017). Sorption properties optimization of agricultural wastes-derived biochars using response surface methodology. *Process Safety and Environmental Protection*, 109, 509–519. <https://doi.org/10.1016/j.psep.2017.05.002>
- Yusbarina, & Marlianis. (2013). Penurunan Kadar Limbah Logam Timbal (Pb) Dengan Metode Khelasi Menggunakan Belimbing Wuluh. *Photon: Jurnal Sain Dan Kesehatan*, 4(1), 1–8. <https://doi.org/10.37859/jp.v4i1.163>
- Zhou, R., Zhang, M., Zhou, J., & Wang, J. (2019). Optimization of biochar

preparation from the stem of *Eichhornia crassipes* using response surface methodology on adsorption of  $Cd^{2+}$ . *Scientific Reports*, 9(1). <https://doi.org/10.1038/s41598-019-54105-1>

